

U.S. Department of Energy
Recovery Act – Workforce Training for the Electric Power Sector
Funding Opportunity Number: DE-FOA-0000152
Topic B: Smart Grid Workforce Training

Summary Information

Project Name	Pacific Northwest Center of Excellence for Clean Energy: Smart Grid Workforce Development
Lead Organization	The Washington State Center of Excellence for Energy Technology at Centralia College
Lead Organization Category	Community College
Lead Project Manager/ PI	Barbara Hins-Turner, Executive Director Washington State Center of Excellence for Energy Technology at Centralia College, Centralia, WA
Authorized Representative	James M. Walton, President, Centralia College
Project Duration	February 1, 2010 – January 31, 2013

Collaborating Organizations and Associated Contacts

Sector	Partner	Contact
Utility	Northwest Energy Efficiency Task Force Member Utilities (Lead)	Ken Canon
	Avista Energy (Washington, Idaho, Montana)	Diane Quincy
	Bonneville Power Administration	Annette Talbot
	Northwestern Energy (Montana)	Deb Martin Young
	Pacificorp	Curtis Meyers
	Portland General Electric	Maureen Fall
	Puget Sound Energy	Troy Nutter, Michael Wehling
	Seattle City Light	Karen DeVenaro
	Snohomish Public Utility District	Mary Smith
	Tacoma Power	Pat McCarty
Labor Partners	Washington State Labor Council (Lead)	Kairie Pierce
	International Brotherhood of Electrical Workers Local 77	Don Guillot
	International Brotherhood of Electrical Workers Local 125	Marcy Putnam
Educational Partners	Center of Excellence for Energy Centralia College (Community College Lead)	Barbara Hins-Turner
	Cascadia Community College Bothell, WA	Ron Wheadon
	Chemeketa Community College Salem, OR	Dr. Bob Topping
	College of Southern Idaho Twin Falls, ID	Dr. Ross Spackman
	Edmonds Community College Edmonds, WA	Alison Pugh

	Gonzaga University Spokane, WA	Jilliene McKinstry
	Lane Community College Eugene, OR	Roger Ebbage
	Montana College of Technology Missoula, MT	Brian Kerns
	Portland State University Portland, OR (University Level Lead)	Dr. Daniel Hammerstrom Jeff Hammerlund
	Regional Education and Training Center Satsop, WA	Ryan Davis
	Spokane Community College Spokane, WA	Christy Doyle
	Walla Walla Community College Walla Walla, WA	Jaime Clark
	Washington State University Energy Extension Olympia, WA	Dr. Alan Hardcastle
	Washington State University	Dr. Anjan Bose
	WestCAMP Orem UT	David Sorensen, PE
Veterans Partners	Veterans Conservation Corp Olympia, WA	Mark Fischer
Manufacturing Partners	Center for Advanced Manufacturing Puget Sound (CAMPS)	Tom McLaughlin
Communications Partners	Hal Calbom Communications	Hal Calbom
National Laboratories	Pacific Northwest National Laboratory Richland, WA	Tracy Yount

EXECUTIVE SUMMARY

This application comes to the Department of Energy as the product of the next generation of regional collaboration in the Pacific Northwest. The Governors of the states of Idaho, Oregon, Montana and Washington have looked to several state and regional collaborative ventures to provide leadership and guidance in the clean energy sector. This sector includes renewable energy, demand side energy efficiency, supply and demand side smart grid, manufacturing, and end user consumers. This grant will support the creation of the ***Pacific Northwest Regional Center of Excellence for Clean Energy*** through next level collaboration of the Northwest Energy Efficiency Task Force, the Center of Excellence (COE) for Energy Technology, many of the utilities of the Bonneville Power Administration grid, regional universities and community and technical colleges, registered apprenticeship programs, represented labor organizations, and government agencies. The regional COE concept was recently endorsed as a best practice by the National Commission on Energy Policy.

The rapid developments in technology now underway in the energy sector will create profound changes in the way electricity is produced, distributed and utilized throughout the country. Electric utilities in the Pacific Northwest have identified the acquisition and implementation of Smart Grid as a top priority, and have played a leadership role as evidenced by the recent award of DOE Smart Grid pilot project grants. These changes to our infrastructure will create

both challenges and opportunities for the regional and national energy workforce. Electric utility jobs will change, and new jobs and skill sets will emerge as a result of this new technology. Due to this region's recent funding awards for the smart grid pilot projects, there will be significant need for enhanced smart grid workforce training in the Pacific Northwest region, prompting the submission of this application to the Department of Energy as a **Topic B: Smart Grid Workforce Training** grant.

The Pacific Northwest Regional Center of Excellence for Clean Energy: **Smart Grid Workforce Development** project aims to achieve three major objectives:

- Deliver smart grid training for utility workers in a four state region (Washington, Idaho, Montana, and Oregon),
- Create an online smart grid training and information portal for utilities, businesses, and consumers through the Regional Education and Training Center at Satsop
- Share best practices on smart grid training using a regional approach.

Integrating Smart Grid technology into the current power grid infrastructure will require collaborative partnerships and innovative solutions to address these changes in transmitting and supplying energy. Leadership and oversight of this project will be provided by key members of industry, education, labor and government. Existing mature partnerships and collaborative ventures among these stakeholders will provide continuity, integration of purpose and a focus on achieving project results.

The Center of Excellence for Energy Technology at Centralia College is the lead agency for this proposal. This application outlines a plan to design and deliver workforce training programs through an innovative collaboration among consumer-owned and investor-owned utilities, a federal power-marketing administration (the Bonneville Power Administration), organized labor, a national laboratory (Pacific Northwest National Laboratory), numerous private sector companies, and community colleges and universities located in the four states of the Pacific Northwest: Washington, Oregon, Idaho, Montana. In addition, through one of our utility partners, we will have access to the educational services of a partner from Utah, which will bring specialized expertise in the provision of Smart Grid hazard and safety training for the region.

Smart Grid workforce training will be designed and delivered through this unique yet pragmatic partnership, entitled the Pacific Northwest Regional Center of Excellence for Clean Energy. We believe that the model we have proposed will offer the most effective and efficient way to ensure a "well-trained, highly skilled electric power workforce" proficient in core-competencies associated with Smart Grid technology. In addition, a key outcome of this innovative project is the dissemination of strategies to educate the workforce regarding safety and hazard prevention techniques, needed to infuse the national clean-energy Smart Grid.

Acceleration of Smart Grid development in the Pacific Northwest region has implications for both supply side and demand side functions of the energy industry. As a result, the Pacific Northwest Regional Center of Excellence for Clean Energy partnership proposes to identify the workforce training needs, utilize currently developed programs and deliver workforce training to meet the needs of the following occupations related to Smart Grid:

Supply Side Occupations	Demand Side Occupations
Instrument Control/Relay Specialist (Generation and Load Dispatchers)	Customer Service Reps
Generation, Load and Substation Operators	Meter Technicians
Line Worker (Apprenticeship Preparation, Apprenticeship, and Incumbent Workers)	Energy Advisors
Substation Wireman/Mechanics (Apprenticeship Preparation, Apprenticeship, and Incumbent Workers)	Energy Conservation Program Administrators
Ground Crews (utility construction worker)	Resource Conservation Managers

This project is proposing to provide training in four states (Washington, Idaho, Montana, Oregon) and parts of Utah to target populations identified in previous sections, coordinated by the proposed Pacific Northwest Regional Center of Excellence for Clean Energy located at Centralia College, Centralia WA. Training will be provided at satellite training delivery centers strategically located within the states identified in this grant. Each satellite campus will provide comprehensive training related to Smart Grid

PROJECT OBJECTIVES AND TASKS

This grant application will establish the *Pacific Northwest Center of Excellence for Clean Energy*, which will be given strategic oversight and direction by the Northwest Energy Efficiency Task Force (NEET), a partnership of utilities, government agencies, industry leaders, legislators, educators, community action groups, consultants, environmental advocates and other stakeholders, to jumpstart the next generation of energy efficiency in the Northwest. NEET requested that the Washington State Center of Excellence at Centralia College lead a coordinated approach to clean energy workforce development strategies for the Pacific Northwest to:

- 1) Define clean energy jobs distinct from other green-economy jobs
- 2) Establish skill standards and identify job classifications and
- 3) Create a regional information sharing and online repository for knowledge, information links and access to share study data, best practices in recruitment and retention and regional clean energy job openings and online training.

As aligned with the NEET request to lead a coordinated approach, the Centralia Center of Excellence for Energy Technology is the lead agency that will manage the Smart Grid grant application and the coordination of activities from the *Pacific Northwest Center of Excellence for Clean Energy*. The collaboration of partners from the four-state region of the Pacific Northwest and the portion of Utah that supplies energy to the region will:

- Leverage its expertise in smart grid technology by creating and delivering training programs to meet the specific smart grid occupational needs of the participating states, and;

- Develop and establish a comprehensive training portal that that will provide a high level of working competence with Smart Grid technology, its applications and associated needs in support of all affected demand-side energy occupations.
- Identify and propose remedies to safety issues and hazards associated with smart grid deployment.

[illegible]

Separate budgets are required for subgrants or contracts regardless of the dollar value. Include such expenses as evaluators, facilitators, subcontracts for field experience services, etc.												
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
G. Construction:												
Construction is not allowed	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
H. Other:												
Include information such as stipends, program fees (when not a sub-contract), etc.												
Room Rental (300 day + 30 media + 40 technician + 30 room set up)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
I. Total Direct Charges:	\$145,000.00		\$240,000.00	\$135,000.00		\$195,000.00	\$135,000.00		\$195,000.00	\$415,000.00		
J. In Kind and Leveraged Contributions		\$174,800.00			\$174,800.00			\$174,800.00)		\$0.00
K: Totals:	\$145,000.00	\$174,800.00	\$319,800.00	\$135,000.00	\$174,800.00	\$309,800.00	\$135,000.00	\$174,800.00	\$309,800.00	\$415,000.00	\$524,400.00	\$939,400.00